THE BRITISH COMPUTER SOCIETY

THE BCS PROFESSIONAL EXAMINATIONS
Diploma

PROFESSIONAL ISSUES IN INFORMATION SYSTEMS PRACTICE

20th April 2006, 10.00 a.m.-12.00 p.m.
Answer FOUR questions out of SIX. All questions carry equal marks.
Time: TWO hours.

*The marks given in brackets are **indicative** of the weight given to each part of the question.*

1. *a)* Identify FIVE responsibilities of the Engineering Council within the UK engineering profession. **(5 marks)**

    b) *i)* Explain why the development of information systems is regarded as an engineering activity. **(6 marks)**
    ii) In contrast, give two reasons why aspects of the information systems development process might be seen as outside of the engineering field. **(4 marks)**

    c) Explain the legal status of software engineers in the UK and how this compares to other professions and other countries. **(10 marks)**

2. *a)* Explain the meaning of the following terms, using examples as appropriate:
    i) Fixed Costs
    ii) Variable Costs
    iii) Depreciation
    iv) Equity Capital **(12 marks)**

    b) Green Computing is a company that acquires second hand computers and renovates them. The cost of acquisition of the PCs is low as they provide a service to companies who wish to dispose of such machines. It requires a van for collecting these machines. They sell the machines to home users and schools. They have two levels of renovation: a simple check and clean up, and a more advanced upgrade to key components. Eight technicians are employed full-time to undertake this work for 1500 productive hours annually, and one part-time technician is employed for 500 hours per year, at an average cost of £20 per hour. The following table shows the resources required for each type of renovation and the likely sales figures.

Type of Renovation	Cost of Components (£)	Technician Time (hours)	Expected number of Sales
Simple	0	5	500
Upgrade	200	15	700

Company overheads are expected to be £100,000 per annum.

Calculate how to distribute this overhead and the resultant cost of the computers sold based on:
i) units sold
ii) labour
iii) total cost of units **(13 marks)**

Turn over]

3. Suppose that you are the manager of a computer services department in a UK college that is responsible for both management information services and computing facilities for students.

a) Describe the features that you would expect to provide in order to make the computer facilities accessible to students with disabilities. **(13 marks)**

b) Discuss how you would ensure that the college complied with the UK Data Protection Act 1998. **(12 marks)**

4. *a)* Explain what is meant by a registered trade mark and describe how it can be used to protect against software piracy. **(12 marks)**

b) Describe how the scope of Internet domain names differs from that of trade marks and explain how this can lead to conflicts. **(8 marks)**

c) What mechanism exists for resolving these conflicts? **(5 marks)**

5. *a)* It is not enough for an organisation of any size to merely support anti-discrimination legislation. Three courses of action are required of an organisation to ensure effective compliance with anti-discrimination legislation in the workplace. Briefly describe EACH of the THREE courses of action. **(10 marks)**

b) Identify THREE important features of the Sex Discrimination Act 1975. **(9 marks)**

c) Through the use of examples, explain the meaning of the terms *direct discrimination* and *indirect discrimination*. **(6 marks)**

6. *a)* Job specialisation is aimed at increasing work efficiency. However, it does not necessarily improve job performance. Explain why this is so. **(10 marks)**

b) What are the main strengths of Management by Objectives (MBO), when used to measure the performance of employees? **(7 marks)**

c) Management by objectives is not suitable for measuring the performance of ALL occupations. One such occupation is that of software engineer. Explain why the job of software engineer may not be suitably measured by applying the system of MBO. **(8 marks)**